

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

**\* NOTICES \***

**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

3.In the drawings, any words are not translated.

---

**Bibliography**

---

(19) [Country of Issue] Japan Patent Office (JP)

(12) [Official Gazette Type] Open patent official report (A)

(11) [Publication No.] JP,2003-16495,A (P2003-16495A) ✓

(43) [Date of Publication] January 17, Heisei 15 (2003. 1.17)

(54) [Title of the Invention] A common transport device and bill descent mechanisms, such as a coin and a bill

(51) [The 7th edition of International Patent Classification]

G07D 3/00

[FI]

G07D 3/00 A

[Request for Examination] Un-asking.

[The number of claims] 9

[Mode of Application] OL

[Number of Pages] 6

(21) [Filing Number] Application for patent 2001-201883 (P2001-201883)

(22) [Filing Date] July 3, Heisei 13 (2001. 7.3)

(71) [Applicant]

[Identification Number] 392017244

[Name] Sun machine \*\*\*\*\*

[Address] 1-2466-2, Hirosawa-cho, Kiryu-shi, Gumma-ken

(72) [Inventor(s)]

[Name] Kimijima Masayuki

[Address] 1-2466-2, Hirosawa-cho, Kiryu-shi, Gumma-ken A Sun machine \*\*\*\*\*  
meeting in the company

(72) [Inventor(s)]

[Name] Kurasawa Takashi

[Address] 1-2466-2, Hirosawa-cho, Kiryu-shi, Gumma-ken A Sun machine \*\*\*\*\*  
meeting in the company

(74) [Attorney]

[Identification Number] 100066821

[Patent Attorney]

[Name] Shoji Kenji

[Theme code (reference)]

3E001

[F term (reference)]

3E001 AA01 AB01 BA01 BA02 CA08 DA01 DA14 FA23 FA57

---

[Translation done.]

**\* NOTICES \***

**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

3.In the drawings, any words are not translated.

---

Summary

---

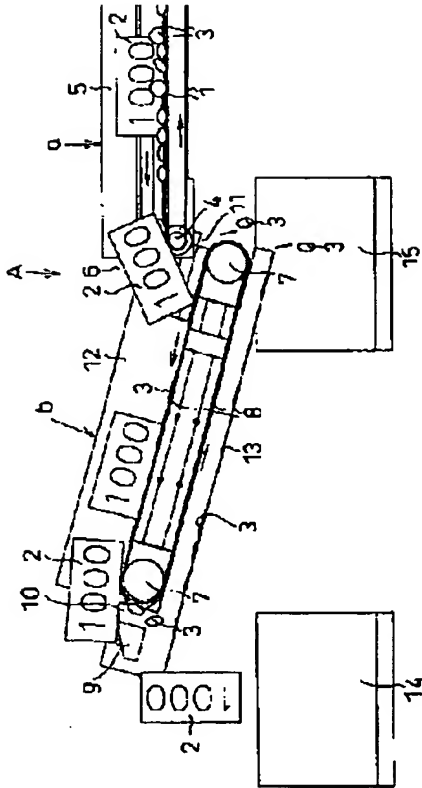
(57) [Abstract]

[Technical problem] the conveyer for conveyance — the bill was only a front edge, in two stages of the front end section and the back end section, the conveyed bill, the coin conveyed in the polymerization or the state where a polymerization is not carried out are classified, and the coin could be made to carry out the fall receipt of it according to the distribution mechanism currently installed in the front end section of the conveyer for conveyance

[Means for Solution] While making the front into the letter of an inclination a little and installing it in the trailer of the conveyer for conveyance which conveys the bill and medal which are used in a pachislot game facility etc., the bill conveyed by aforementioned conveyer prepared the distribution mechanism of the bill which distributes a medal to a medal housing certainly and is made to contain in the bill housing.

---

[Translation done.]




---

[Translation done.]

**\* NOTICES \***

**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

---

**CLAIMS**

[Claim(s)]

[Claim 1] The bill conveyed by aforementioned conveyer while making the front into the letter of an inclination a little and installing it in the trailer of the conveyer for conveyance which conveys the bill and medal which are used in a pachislot game facility etc. is the common transport device of the bill and medal which are characterized by a medal establishing the distribution mechanism of the bill distributes to a medal housing certainly and it is made to contain at a bill housing.

[Claim 2] While failing to slide on the medal which prepared the medal housing in the lower part section of the back section of the distribution mechanism of the aforementioned bill and a medal, and fell from the front edge of the aforementioned conveyer for conveyance and containing it from this mechanism under inclination After making only the bill conveyed by the front section in the state of the rise move forward a little, the distribution mechanism in which it has a fall \*\*\*\*\* induction machine style for a bill is established. It is the common transport device of the bill according to claim 1 and medal which are characterized by having fallen some medals which prepared the gap section between the aforementioned induction machine style and the aforementioned front pulley, and have been conveyed by the upper part section with the belt, and making after fall into the mechanism in which it slides down.

[Claim 3] The bill conveyed by aforementioned conveyer while making the front into the letter of an inclination a little and installing it in the trailer of the conveyer for conveyance which conveys the bill and the coin which are used in a pachinko game facility etc. is the common transport device of the bill and the coin which are characterized by for a coin to establish the distribution mechanism of the bill and the coin distribute to a coin housing certainly and it is made to contain at a bill housing.

[Claim 4] While failing to slide on the coin which prepared the coin housing in the lower part section of the back section of the common transport device of the aforementioned bill and a coin, and fell from the front edge of the aforementioned conveyer for conveyance and containing it from this mechanism under inclination After making only the bill conveyed by the front section of the aforementioned transport device in the state of elevation move forward a little, Some coins which established the distribution mechanism in which it had a fall \*\*\*\*\* induction machine style for a bill, prepared the gap section between the aforementioned distribution mechanism and the aforementioned front pulley, and were conveyed by the upper part section with the belt are fallen. After fall is the common transport device of the bill according to claim 3 and coin which are characterized by making it a mechanism which is slid down.

[Claim 5] The coin and bill which were fed into the medal on-hire opportunity or pachinko ball rental machine of a pachislot machine or a pachinko machine, Or the conveyer for conveyance of the shape of level [ aforementioned ] linked to the conveyer for conveyance which is intermingled and conveys a medal and a bill is received. The bill descent mechanism for a game facility characterized by preparing the space section which the bill which has fallen in the shape of length rotates [ section ] in the lower part section of the bill descent mechanism of installation in the longwise direction which constitutes a ball rental machine or a medal on-hire opportunity by self-weight, and makes the sense change into it in the shape of oblong.

[Claim 6] The bill descent mechanism for a game facility according to claim 5

characterized by the space section of the lower part section of the aforementioned bill descent mechanism forming in the same part as the advance direction of the belt of the conveyer for conveyance.

[Claim 7] The bill descent mechanism for a game facility according to claim 3 or 6 characterized by establishing a bill reversal mechanism so that the edge section of corner approach may hit a part opposite to the aforementioned space section among the lower part edge section of a fall bill.

[Claim 8] The aforementioned space section is a bill descent mechanism for a game facility according to claim 5, 6, or 7 characterized by forming in the shape of a semicircle.

[Claim 9] The aforementioned distribution mechanisms are common transport devices, such as the claim 1 characterized by preparing the sliding way section which slides down a medal or a coin in the belt driven with the drive which conveys a bill, a coin, or a medal, the front section of the aforementioned belt and the opening section to which a coin or a medal falls in the back section, and the lower part section of the aforementioned belt or a coin according to claim 2, 3, or 4, and a bill.

---

[Translation done.]

**\* NOTICES \***

**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

3.In the drawings, any words are not translated.

---

**DETAILED DESCRIPTION**

---

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the common transport device of the coin used in a game facility of a pachislot etc., and a bill, and the field of a bill fall mechanism.

[0002]

[Description of the Prior Art] As a common transport device of the coin thrown into the ball rental machine between bases, or the medal on-hire opportunity, a bill, and a medal, there is an application for patent [ finishing / application of this applicant ]

No. (common transport devices, such as a coin of the injection to the ball rental machine between bases etc. and a bill) 397189 / 2000 to /.

[0003] The common transport device of the above-mentioned application had the case where the bill, coin, or medal which is a conveyed object can classify certainly, and the case where judgment could be easily impossible.

[0004] The vertical configuration bill descent mechanism in which the bill thrown into the ball rental machine furthermore connected with the aforementioned common transport device of the aforementioned application or the medal on-hire opportunity and a coin are made to fall had the case where it was caught in making longwise shell horizontal length turn a bill, and a turn was certainly impossible for it, depending on the case.

[0005]

[Problem(s) to be Solved by the Invention] common transport devices, such as a coin of this invention, and a bill, -- the 1st -- the conveyer for conveyance -- the bill was only a front edge, in two stages of the front end section and the back end section, the conveyed bill, the coin conveyed in the polymerization or the state where a polymerization is not carried out are classified, and the coin could be made to carry out the fall receipt of it according to the distribution mechanism currently installed in the front end section of the conveyer for conveyance

[0006] Furthermore, you carry out natural fall of the bill thrown into opportunities on hire, such as medals, such as a pachislot, through a bill descent mechanism at the shape of longwise, and make it rotate without making a longwise-like bill into very easy structure, and moreover being caught, just before reaching the aforementioned conveyer for conveyance, and the bill descent mechanism of this invention changes the sense, and conveys it by conveyer for conveyance.

[0007]

[Means for Solving the Problem] While invention according to claim 1 is made into the letter of an inclination a little and installs the front in the trailer of the conveyer for conveyance which conveys the bill and the medal which are used in a pachislot game facility etc., the bill conveyed by aforementioned conveyer is the common transport device of the bill and the medal which are characterized by for a medal to establish the distribution mechanism of the bill distributes to a medal housing certainly and it is made to contain at a bill housing.

[0008] While failing to slide on the medal which invention according to claim 2 prepared the medal housing in the lower part section of the back section of the distribution mechanism of the aforementioned bill and a medal, and fell from the front edge of the aforementioned conveyer for conveyance and containing it from this mechanism under inclination After making only the bill conveyed by the front section in the state of elevation move forward a little, the distribution mechanism in which it has a fall \*\*\*\*\* induction machine style for a bill is established. It is the common transport device of the bill according to claim 1 and medal which are characterized by having fallen some medals which prepared the gap section between

the aforementioned induction machine style and the aforementioned front pulley, and have been conveyed by the upper part section with the belt, and making after fall into a mechanism which is slid down.

[0009] While invention according to claim 3 makes into the letter of an inclination a little and installs the front in the trailer of the conveyer for conveyance which conveys the bill and the coin which are used in a pachinko game facility etc., the bill conveyed by the aforementioned conveyer is the common transport device of the bill and the coin which are characterized by for a coin to establish the distribution mechanism of the bill and the coin distribute to a coin housing certainly and it is made to contain at a bill housing.

[0010] While failing to slide on the coin which invention according to claim 4 prepared the coin housing in the lower part section of the back section of the common transport device of the aforementioned bill and a coin, and fell from the front edge of the aforementioned conveyer for conveyance and containing it from this mechanism under inclination After making only the bill conveyed by the front section of the aforementioned transport device in the state of elevation move forward a little, Some coins which established the distribution mechanism in which it had a fall \*\*\*\*\* induction machine style for a bill, prepared the gap section between the aforementioned distribution mechanism and the aforementioned front pulley, and were conveyed by the upper part section with the belt are fallen. After fall is the common transport device of the bill according to claim 3 and coin which are characterized by making it a mechanism which is slid down.

[0011] The coin and bill with which invention according to claim 5 was supplied to the medal on-hire opportunity or pachinko ball rental machine of a pachislot machine or a pachinko machine, Or the conveyer for conveyance of the shape of level [ aforementioned ] linked to the conveyer for conveyance which is intermingled and conveys a medal and a bill is received. It is the bill descent mechanism for a game facility characterized by preparing the space section which the bill which has fallen in the shape of length rotates [ section ] in the lower part section of the bill descent mechanism of installation in the longwise direction which constitutes a ball rental machine or a medal on-hire opportunity by self-weight, and makes the sense change into it in the shape of oblong.

[0012] Invention according to claim 6 is a bill descent mechanism for a game facility according to claim 5 characterized by the space section of the lower part section of the aforementioned bill descent mechanism forming in the same part as the advance direction of the belt of the conveyer for conveyance.

[0013] Invention according to claim 7 is a bill descent mechanism for a game facility according to claim 3 or 6 characterized by establishing a bill reversal mechanism so that the edge section of corner approach may hit among the lower part edge section of a fall bill at a part opposite to the aforementioned space section.

[0014] It is the bill descent mechanism for a game facility according to claim 5, 6, or 7 characterized by invention according to claim 8 forming the aforementioned space



section in the shape of a semicircle.

[0015] Invention according to claim 9 is common transport devices, such as the claim 1 characterized by the aforementioned distribution mechanism preparing the sliding way section which slides down a medal or a coin in the belt driven with the drive which conveys a bill, a coin, or a medal, the front section of the aforementioned belt and the opening section to which a coin or a medal falls in the back section, and the lower part section of the aforementioned belt or a coin according to claim 2, 3, or 4, and a bill.

[0016]

[Embodiments of the Invention] Since the gestalt of operation is common, it bundles up as follows and invention according to claim 1 to 9 is explained.

[0017] A is a common transport device which shares and conveys a bill 2 and coin 3 grade.

[0018] a is a conveyer for conveyance which constitutes the aforementioned transport device A, and consists of the following composition.

[0019] The aforementioned conveyer a is driven with a drive and made to \*\*\*\* a belt 1 to the pulleys 4 and 4 which have a \*\*\*\*\* interval. And the front face of the aforementioned belt 1 uses materials on which it is hard to slide, or the processed thing.

[0020] The panel section which makes the bill 2 grade from which 5 constitutes the aforementioned conveyer a convey certainly, and 6 are the front sections of the aforementioned conveyer a.

[0021] It is conveyed or the aforementioned coin 3 is conveyed in the state where overlap and it does not lap.

[0022] b is the distribution mechanism in which a bill 2 and a coin 3 are distributed, and consists of the following mechanisms.

[0023] This mechanism b is driven with a drive and \*\*\*\* a belt 8 to the pulleys 7 and 7 which moreover set and install a predetermined interval. The front face of this belt 8 is processed so that neither a bill 2 nor a coin 3 may be slippery.

[0024] Furthermore, the aforementioned mechanism b equips with the induction machine style 9 which guides descent of the bill 2 conveyed by the front section at the point. And the gap section 10 in which a coin 3 falls is formed between the points of the aforementioned mechanism 9 and the aforementioned mechanism b. 11 is the back gap section.

[0025] 12 is the panel section which prevents the inclination of a bill 2 and is made to convey certainly.

[0026] It consists of the above composition and distributes, and Mechanism b makes it the back end section of the aforementioned distribution mechanism b located, it raises only a predetermined angle in the direct lower part of the front section 6 of the aforementioned conveyer a for conveyance, and installs the point of the aforementioned mechanism b in it like drawing illustration at an inclination state.

[0027] This inclination may usually be 15 degrees.

[0028] And inclining a little, it lays to the belt 8 of the distribution mechanism b, and the bill 2 with which the nose of cam was sent in by inclining a little from the front section 6 of the aforementioned conveyer a moves forward.

[0029] 14 is a bill stowage and 15 is a coin stowage.

[0030] In the case of a pachislot machine style, the common transport device A of this invention shares and conveys a medal and a bill 2 instead of a coin.

[0031] Furthermore, the polymerization of the coin 3 under conveyance may not be alone carried out by aforementioned conveyer a of the common transport device A of this invention, or the polymerization may be carried out.

[0032] In the front section 6 of the aforementioned conveyer a, although the coin 3 which does not carry out a polymerization falls to the belt 8 of distribution equipment [ directly under ] b, the fall reservoir of it is carried out at the downward housing 15 for the letter of an inclination.

[0033] It breaks away, when the front section 6 of the aforementioned conveyer a is reached as mentioned above, and the coin 3 which furthermore carries out a polymerization falls in a housing 15 immediately as mentioned above, or carries out a polymerization again, and lays and moves forward to a belt 8. In this case, if the front section of the distribution mechanism b is reached, a fall reservoir will be carried out to the aforementioned stowage 15 by the sliding way section 13 simultaneously with surroundings \*\*\*\* under [ section / gap / 10 ] the belt 8.

[0034] 9 is the distribution mechanism prepared in the front section of the front pulley 7 which constitutes the distribution mechanism b. This mechanism 9 will fall inclining downward gradually, if the conveyed bill 2 inclines a little and is simultaneously sent out by advance of a belt 8.

[0035] The gestalt of operation of the bill descent mechanism B for a game facility of this invention is explained below.

[0036] 16 is a bill descent pipe which constitutes the bill descent mechanism B, and is included in the ball rental machine or the medal on-hire opportunity.

[0037] And the aforementioned descent pipe 16 has the breadth to which the various bills 2 fall in the longwise direction. Moreover, the aforementioned bill 2 is natural fall.

[0038] 18 is the bill reversal mechanism which made the lower part section of the aforementioned descent pipe 16, and was moreover prepared in the method of an unilateral. This mechanism 18 may have and form the shape of a rod. And among the lower part edge section of the bill 2 which fell in this mechanism 18, it attaches so that the edge section of corner approach may hit.

[0039] If a bill 2 hits as mentioned above, since [ that the aforementioned mechanism 18 is long and slender ] it is cylindrical, a bill 2 will be concentrated compulsorily.

[0040] 17 is the space section of the letter of bulge. This space section 17 is a generous enough space, even if the aforementioned bill 2 becomes oblong, when the bill 2 which fell is compulsorily reversed in the shape of oblong from a longwise state

with the aforementioned reversal mechanism 18.

[0041] The aforementioned space section 17 is formed in the lower part section of the fall pipe 16 of the same part as the advance direction of a belt 1.

[0042] Furthermore, without limiting on a semicircle, like a drawing, a bill 2 is reversed and the bulge configuration of the space section 17 is formed in falling with an convenient configuration.

[0043]

[Effect of the Invention] While invention according to claim 1 makes the front the letter of an inclination a little and installs it in the trailer of the conveyer for conveyance which conveys the bill and medal which are used in a pachislot game facility etc. Since the bill conveyed by aforementioned conveyer is the common transport device of the bill and medal which prepared the distribution mechanism of the bill which distributes a medal to a medal housing certainly and is made to contain in the bill housing The bill conveyed by conveyer for conveyance failed to be slippery in the first stage, and it was made to make the coin conveyed while a bill housing carries out fall receipt and an another side polymerization is certainly carried out to it fall certainly in the following stage, making it slide.

[0044] While failing to slide on the medal which invention according to claim 2 prepared the medal housing in the lower part section of the back section of the distribution mechanism of the aforementioned bill and a medal, and fell from the front edge of the aforementioned conveyer for conveyance and containing it from this mechanism under inclination After making only the bill conveyed by the front section in the state of elevation move forward a little, the distribution mechanism in which it has a fall \*\*\*\*\* induction machine style for a bill is established. Since it is the common transport device of the bill and medal which were made into the mechanism in which it falls and after fall slides down some medals which prepared the gap section between the aforementioned induction machine style and the aforementioned front pulley, and have been conveyed by the upper part section with the belt The conveyed bill has the advantage which can be contained to the housing of a predetermined part certainly [ carrying out the polymerization also of the conveyed medal \*\*\*\* ] in two stages while being able to contain it to a housing certainly through a front induction machine style.

[0045] While invention according to claim 3 makes the front the letter of an inclination a little and installs it in the trailer of the conveyer for conveyance which conveys the bill and coin which are used in a pachinko game facility etc. Since the bill conveyed by aforementioned conveyer is the common transport device of the bill and coin which prepared the distribution mechanism of the bill and coin which a coin distributes to a coin housing certainly and are made to contain in the bill housing, it has the same effect as invention according to claim 1.

[0046] While failing to slide on the coin which invention according to claim 4 prepared the coin housing in the lower part section of the back section of the common transport device of the aforementioned bill and a coin, and fell from the

front edge of the aforementioned conveyer for conveyance and containing it from this mechanism under inclination After making only the bill conveyed by the front section of the aforementioned transport device in the state of elevation move forward a little, Some coins which established the distribution mechanism in which it had a fall \*\*\*\*\* induction machine style for a bill, prepared the gap section between the aforementioned distribution mechanism and the aforementioned front pulley, and were conveyed by the upper part section with the belt are fallen. Since after fall is the common transport device of the bill and coin which were made into a mechanism which is slid down, it has the same effect as invention according to claim 3.

[0047] The coin and bill with which invention according to claim 5 was supplied to the medal on-hire opportunity or pachinko ball rental machine of a pachislot machine or a pachinko machine, Or the conveyer for conveyance of the shape of level [ aforementioned ] linked to the conveyer for conveyance which is intermingled and conveys a medal and a bill is received. Since it is the bill descent mechanism for a game facility in which the space section which the bill which has fallen in the shape of length rotates [ section ] in the lower part section of the bill descent mechanism of installation in the longwise direction which constitutes a ball rental machine or a medal on-hire opportunity by self-weight, and makes the sense change into it in the shape of oblong was prepared It has the advantage make reverse certainly the various bills which fall in a vertical configuration through a bill descent mechanism, and the aforementioned bill enabled it to reverse convenient at all moreover.

[0048] Since the space section of the lower part section of the aforementioned bill descent mechanism is the bill descent mechanism for a game facility formed in the same part as the advance direction of the belt of the conveyer for conveyance, invention according to claim 6 has the same effect as invention according to claim 5.

[0049] Since invention according to claim 7 is the bill descent mechanism for a game facility in which the bill reversal mechanism was prepared in the part opposite to the aforementioned space section so that the edge section of corner approach might hit among the lower part edge section of a fall bill, it has the same effect as invention according to claim 5.

[0050] Since the aforementioned space section is the bill descent mechanism for a game facility formed in the shape of a semicircle, invention according to claim 8 has the same effect as invention according to claim 5.

[0051] Since invention according to claim 9 is common transport devices which prepared the sliding way section which slides down a medal or a coin in the belt which the aforementioned distribution mechanism drives with the drive which conveys a bill, a coin, or a medal, the front section of the aforementioned belt and the opening section to which a coin or a medal falls in the back section, and the lower part section of the aforementioned belt, such as a coin and a bill, a medal or a coin can carry out fall receipt certainly through the sliding way section.

---

[Translation done.]

**\* NOTICES \***

**Japan Patent Office is not responsible for any damages caused by the use of this translation.**

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

3.In the drawings, any words are not translated.

---

**DESCRIPTION OF DRAWINGS**

---

[Brief Description of the Drawings]

[Drawing 1] a part of common transport devices, such as a coin of this invention, and a bill, — it is notch vertical section front view

[Drawing 2] some of bill descent mechanisms in a common transport device and bill descent mechanisms, such as a coin of this invention, and a bill, and conveyers for conveyance — it is notch vertical section front view

[Description of Notations]

A Common transport device

B Bill descent mechanism

The conveyer for conveyance

b Distribution mechanism

1 Belt

2 Bill

3 Coin

4 Pulley

5 Panel Section

6 Front Section

7 Front Pulley Section

8 Belt

9 Distribution Mechanism

10 Gap Section

11 Back Gap Section

12 Panel Section

13 Sliding Way Section

14 Bill Stowage

15 Coin Stowage

16 Bill Descent Pipe

17 Space Section

18 Bill Reversal Mechanism

[Translation done.]

\* NOTICES \*

Japan Patent Office is not responsible for any damages caused by the use of this translation.

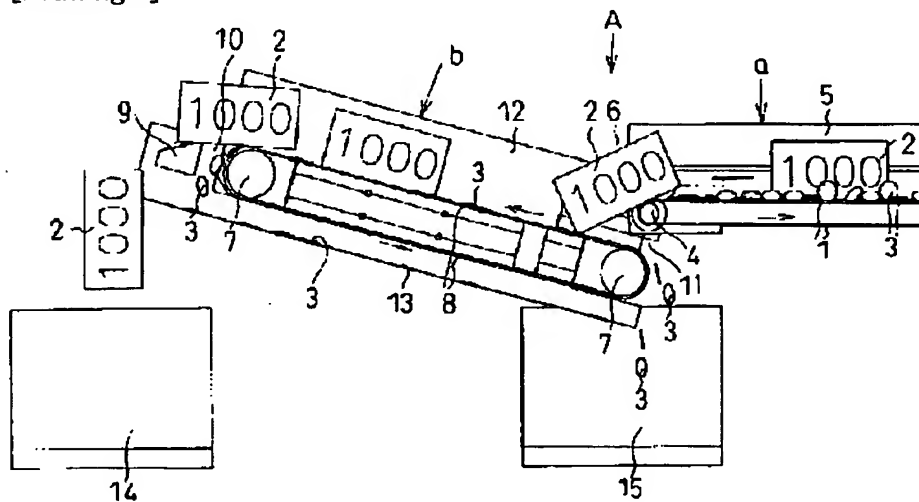
1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.\*\*\*\* shows the word which can not be translated.

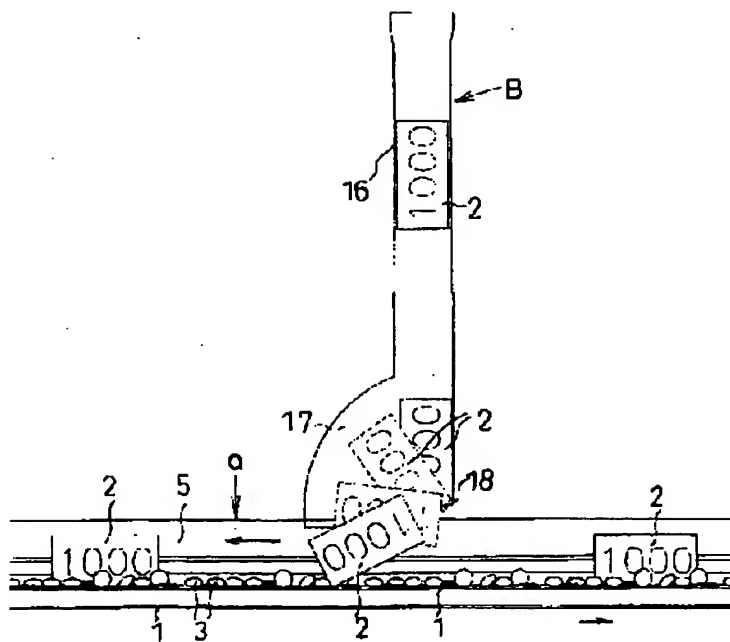
3.In the drawings, any words are not translated.

## DRAWINGS

[Drawing 1]



[Drawing 2]



[Translation done.]

(19)日本国特許庁 (J P)

(12) 公 開 特 許 公 報 (A)

(11)特許出願公開番号  
特開2003-16495  
(P2003-16495A)

(43)公開日 平成15年1月17日(2003.1.17)

(51)Int.Cl.<sup>7</sup>  
G 0 7 D 3/00

識別記号

F I  
G 0 7 D 3/00

データベース\*(参考)  
A 3 E 0 0 1

審査請求 未請求 請求項の数9 O L (全 6 頁)

(21)出願番号 特願2001-201883(P2001-201883)

(22)出願日 平成13年7月3日(2001.7.3)

(71)出願人 392017244

サン機工株式会社

群馬県桐生市広沢町1丁目2466番地2

(72)発明者 君島 雅之

群馬県桐生市広沢町1丁目2466番地2 サ  
ン機工株式会社内

(72)発明者 倉澤 隆志

群馬県桐生市広沢町1丁目2466番地2 サ  
ン機工株式会社内

(74)代理人 100066821

弁理士 庄司 建治

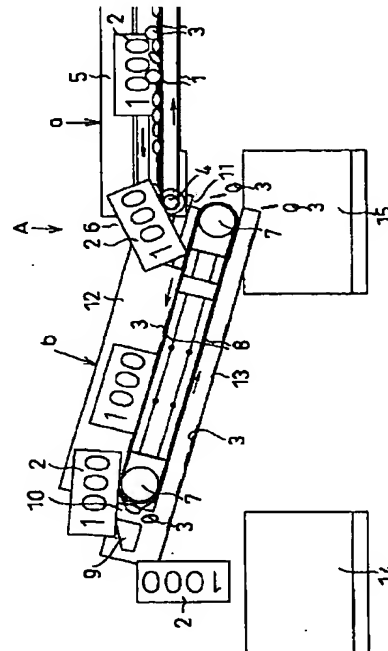
Fターム(参考) 3E001 A401 A401 BA01 BA02 CA08  
DA01 DA14 FA23 FA57

(54)【発明の名称】 硬貨、紙幣等の共用搬送装置及び紙幣降下機構

(57)【要約】

【課題】搬送用コンベアによって搬送されてきた紙幣と、重合もしくは重合しない状態で搬送されてきた硬貨等が、搬送用コンベアの前端部に設置されている振り分け機構によって、紙幣は前方端部だけで、硬貨は前端部と後端部の2段階で分別されて落下収納できるようにした。

【解決手段】パチスロ遊技設備等において使用される紙幣及びメダルを搬送する搬送用コンベアの終端部に、前方を若干傾斜状にして設置すると共に、前記コンベアによって搬送されてきた紙幣は紙幣収納箱に、メダルはメダル収納箱に確実に振り分け収納せしめる紙幣の振り分け機構を設けた。





## 【特許請求の範囲】

【請求項 1】パチスロ遊技設備等において使用される紙幣及びメダルを搬送する搬送用コンベアの終端部に、前方を若干傾斜状にして設置すると共に、前記コンベアによって搬送されてきた紙幣は紙幣収納箱に、メダルはメダル収納箱に確実に振り分け収納せしめる紙幣の振り分け機構を設けたことを特徴とする紙幣及びメダルの共用搬送装置。

【請求項 2】前記紙幣及びメダルの振り分け機構の後方の下方部に、メダル収納箱を設け、前記搬送用コンベアの前前端部より落下したメダルを傾斜中の該機構より滑り落し収納すると共に、前方部に上昇状態で搬送された紙幣のみを若干前進せしめた後、紙幣を落下せしめる誘導機構を有する振り分け機構を設け、前記誘導機構と前記前方ブーリとの間に間隙部を設けてベルトによって上方部に搬送されてきた一部のメダルを落下し、落下後は滑り落ちるような機構にしたことを特徴とする請求項 1 記載の紙幣及びメダルの共用搬送装置。

【請求項 3】パチンコ遊技設備等において使用される紙幣及び硬貨を搬送する搬送用コンベアの終端部に、前方を若干傾斜状にして設置すると共に、前記コンベアによって搬送されてきた紙幣は紙幣収納箱に、硬貨は硬貨収納箱に確実に振り分け収納せしめる紙幣及び硬貨の振り分け機構を設けたことを特徴とする紙幣及び硬貨の共用搬送装置。

【請求項 4】前記紙幣、硬貨の共用搬送装置の後方の下方部に、硬貨収納箱を設け、前記搬送用コンベアの前前端部より落下した硬貨を傾斜中の該機構より滑り落し収納すると共に、前記搬送装置の前方部に上昇状態で搬送された紙幣のみを若干前進せしめた後、紙幣を落下せしめる誘導機構を有する振り分け機構を設け、前記振り分け機構と前記前方ブーリとの間に間隙部を設けてベルトによって上方部に搬送された一部の硬貨を落下し、落下後は滑り落ちるような機構にしたことを特徴とする請求項 3 記載の紙幣及び硬貨の共用搬送装置。

【請求項 5】パチスロ機又はパチンコ機のメダル貸機又はパチンコ玉貸機に投入された硬貨と紙幣、あるいはメダルと紙幣を混在して搬送する搬送用コンベアと接続する前記水平状の搬送用コンベアに対し、玉貸機又はメダル貸機を構成する縦長方向に設置の紙幣降下機構の下方部に、縦状に落下してきた紙幣が自重で回転し横長状に向きを変えせしめる空間部を設けたことを特徴とする遊技設備用紙幣降下機構。

【請求項 6】前記紙幣降下機構の下方部の空間部が、搬送用コンベアのベルトの前進方向と同じ部位に形成することを特徴とする請求項 5 記載の遊技設備用紙幣降下機構。

【請求項 7】前記空間部と反対の部位に、落下紙幣の下方端縁部中、隅部寄りの端縁部が当るように紙幣反転機構を設けたことを特徴とする請求項 3 又は請求項 6 記載

の遊技設備用紙幣降下機構。

【請求項 8】前記空間部は、半円形状にて形成することを特徴とする請求項 5 又は請求項 6 又は請求項 7 記載の遊技設備用紙幣降下機構。

【請求項 9】前記振り分け機構は、紙幣、硬貨又はメダルを搬送する駆動機構によって駆動するベルトと、前記ベルトの前方部と後方に硬貨又はメダルが落下する空隙部と、前記ベルトの下方部に、メダル又は硬貨を滑り落とす滑り台部を設けたことを特徴とする請求項 1 又は請求項 2 又は請求項 3 又は請求項 4 記載の硬貨、紙幣等の共用搬送装置。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、パチスロ等の遊技設備において使用する硬貨、紙幣の共用搬送装置及び紙幣落下機構の分野に関する。

【0002】

【従来の技術】台間玉貸機又はメダル貸機に投入した硬貨、紙幣及びメダルの共用搬送装置としては、本件出願人が出願済みの特願 2000-397189 号（台間玉貸機等に投入の硬貨、紙幣等の共用搬送装置）がある。

【0003】上記出願の共用搬送装置は、被搬送物である紙幣、硬貨又はメダルが確実に分別できる場合と、分別ができにくい場合とがあった。

【0004】さらに前記出願の前記共用搬送装置と接続する玉貸機又はメダル貸機に投入された紙幣、硬貨を落下せしめる縦形状紙幣降下機構は、紙幣を縦長から横長に方向転換させるのに、場合によっては、引掛かったりして確実に方向転換ができない場合があった。

【0005】

【発明が解決しようとする課題】本発明の硬貨、紙幣等の共用搬送装置は、第 1 に搬送用コンベアによって搬送されてきた紙幣と、重合もしくは重合しない状態で搬送されてきた硬貨等が、搬送用コンベアの前端部に設置されている振り分け機構によって、紙幣は前方端部だけで、硬貨は前端部と後端部の 2 段階で分別されて落下収納できるようにした。

【0006】さらに本発明の紙幣降下機構は、パチスロ等のメダル等の貸機に投入された紙幣を紙幣降下機構を介して縦長状に自然落下し、前記搬送用コンベアに到達する直前において、縦長状の紙幣を極めて簡単な構造にして、しかも引掛からずに回転せしめ向きを変えて搬送用コンベアによって搬送するようにしたものである。

【0007】

【課題を解決するための手段】請求項 1 記載の発明は、パチスロ遊技設備等において使用される紙幣及びメダルを搬送する搬送用コンベアの終端部に、前方を若干傾斜状にして設置すると共に、前記コンベアによって搬送されてきた紙幣は紙幣収納箱に、メダルはメダル収納箱に確実に振り分け収納せしめる紙幣の振り分け機構を設け

たことを特徴とする紙幣及びメダルの共用搬送装置である。

【0008】請求項2記載の発明は、前記紙幣及びメダルの振り分け機構の後方部の下方部に、メダル収納箱を設け、前記搬送用コンベアの前方端部より落下したメダルを傾斜中の該機構より滑り落し収納すると共に、前方部に上昇状態で搬送された紙幣のみを若干前進せしめた後、紙幣を落下せしめる誘導機構を有する振り分け機構を設け、前記誘導機構と前記前方ブーリとの間に間隙部を設けてベルトによって上方部に搬送されてきた一部のメダルを落下し、落下後は滑り落ちるような機構にしたことを特徴とする請求項1記載の紙幣及びメダルの共用搬送装置である。

【0009】請求項3記載の発明は、パチンコ遊技設備等において使用される紙幣及び硬貨を搬送する搬送用コンベアの終端部に、前方を若干傾斜状にして設置すると共に、前記コンベアによって搬送されてきた紙幣は紙幣収納箱に、硬貨は硬貨収納箱に確実に振り分け収納せしめる紙幣及び硬貨の振り分け機構を設けたことを特徴とする紙幣及び硬貨の共用搬送装置である。

【0010】請求項4記載の発明は、前記紙幣、硬貨の共用搬送装置の後方部の下方部に、硬貨収納箱を設け、前記搬送用コンベアの前方端部より落下した硬貨を傾斜中の該機構より滑り落し収納すると共に、前記搬送装置の前方部に上昇状態で搬送された紙幣のみを若干前進せしめた後、紙幣を落下せしめる誘導機構を有する振り分け機構を設け、前記振り分け機構と前記前方ブーリとの間に間隙部を設けてベルトによって上方部に搬送された一部の硬貨を落下し、落下後は滑り落ちるような機構にしたことを特徴とする請求項3記載の紙幣及び硬貨の共用搬送装置である。

【0011】請求項5記載の発明は、パチスロ機又はパチンコ機のメダル貸機又はパチンコ玉貸機に投入された硬貨と紙幣、あるいはメダルと紙幣を混在して搬送する搬送用コンベアと接続する前記水平状の搬送用コンベアに対し、玉貸機又はメダル貸機を構成する縦長方向に設置の紙幣降下機構の下方部に、縦状に落下してきた紙幣が自重で回転し横長状に向きを変更せしめる空間部を設けたことを特徴とする遊技設備用紙幣降下機構である。

【0012】請求項6記載の発明は、前記紙幣降下機構の下方部の空間部が、搬送用コンベアのベルトの前進方向と同じ部位に形成することを特徴とする請求項5記載の遊技設備用紙幣降下機構である。

【0013】請求項7記載の発明は、前記空間部と反対の部位に、落下紙幣の下方端縁部中、隅部寄りの端縁部が当るように紙幣反転機構を設けたことを特徴とする請求項3又は請求項6記載の遊技設備用紙幣降下機構である。

【0014】請求項8記載の発明は、前記空間部は、半円形状にて形成することを特徴とする請求項5又は請求

項6又は請求項7記載の遊技設備用紙幣降下機構。

【0015】請求項9記載の発明は、前記振り分け機構は、紙幣、硬貨又はメダルを搬送する駆動機構によって駆動するベルトと、前記ベルトの前方部と後方部に硬貨又はメダルが落下する空隙部と、前記ベルトの下方部に、メダル又は硬貨を滑り落とす滑り台部を設けたことを特徴とする請求項1又は請求項2又は請求項3又は請求項4記載の硬貨、紙幣等の共用搬送装置である。

【0016】

10 【発明の実施の形態】請求項1～9記載の発明は、実施の形態が共通しているので、以下のとおり一括して説明する。

【0017】Aは紙幣2と硬貨3等を共用して搬送する共用搬送装置である。

【0018】aは前記搬送装置Aを構成する搬送用コンベアであり以下の構成からなっている。

20 【0019】前記コンベアaは、駆動機構によって駆動し、且所定間隔を有するブーリ4、4にベルト1を捲廻せしめる。そして前記ベルト1の表面は滑りにくいような資材又は加工したものを使用する。

【0020】5は前記コンベアaを構成する紙幣2等を確実に搬送せしめる化粧板部、6は前記コンベアaの前方部である。

【0021】前記硬貨3は、重なり合って搬送されたり、あるいは重ならない状態で搬送されたりする。

【0022】bは紙幣2と硬貨3とを振り分ける振り分け機構であり、以下の機構よりなる。

30 【0023】この機構bは、駆動機構によって駆動するし、しかも所定間隔をおいて設置するブーリ7、7にベルト8を捲廻する。このベルト8の表面は、紙幣2や硬貨3が滑らないように加工する。

【0024】さらに前記機構bは、前方部に先端部に搬送されてきた紙幣2の降下を誘導する誘導機構9を装着する。そして前記機構9と前記機構bの先端部との間に硬貨3が落下する間隙部10を設ける。11は後方間隙部である。

【0025】12は紙幣2の傾斜を防止し確実に搬送せしめる化粧板部である。

40 【0026】以上の構成からなる振り分け機構bは、前記搬送用コンベアaの前方部6の直下部に、前記振り分け機構bの後端部を位置せしめ、前記機構bの先端部を所定の角度だけ持ち上げ、図面図示のように傾斜状態に設置する。

【0027】この傾斜は、通常15度とする。

【0028】そして、前記コンベアaの前方部6から若干先端が傾斜して送り込まれた紙幣2は、若干傾斜しながら、振り分け機構bのベルト8へと載置し、前進する。

50 【0029】14は紙幣収納部、15は硬貨収納部である。

【0030】本発明の共用搬送装置Aは、パチスロ機構の場合は、硬貨の代りにメダルと紙幣2とを共用して搬送する。

【0031】さらに本発明の共用搬送装置Aの前記コンベアaによって搬送中の硬貨3は、単体で重合しない場合と、重合している場合がある。

【0032】重合しない硬貨3は、前記コンベアaの前方部6において、直下の振り分け装置bのベルト8に落下するが、傾斜状のため下方の収納箱15に落下貯留される。

【0033】さらに重合する硬貨3は、前記のように前記コンベアaの前方部6に達したとき離脱して、前記のように直ちに収納箱15内に落下するか、あるいは再度重合してベルト8に載置し、前進する。この場合振り分け機構bの前方部に達すると、間隙部10よりベルト8の下方へ廻り込むと同時に滑り台部13により前記収納箱15へと落下貯留する。

【0034】9は振り分け機構bを構成する前方ブーリー7の前方部に設けた振り分け機構である。この機構9は、搬送された紙幣2が、若干傾斜してベルト8の前進によって同時に送り出されると、徐々に下方向に傾斜しながら落下する。

【0035】つぎに本発明の遊技設備用紙幣降下機構Bの実施の形態を説明する。

【0036】16は紙幣降下機構Bを構成する紙幣降下管であり、玉貸機又はメダル貸機に組込まれている。

【0037】そして、前記降下管16は、各種紙幣2が縦長方向に落下する幅員を有している。また前記紙幣2は自然落下である。

【0038】18は前記降下管16の下方部にして、しかも一側方に設けた紙幣反転機構である。この機構18は、棒状をもって形成してもよい。そしてこの機構18に、落下した紙幣2の下方端縁部中、隅部寄りの端縁部が当るように取付ける。

【0039】前記のように紙幣2が当たると、前記機構18が細長い棒状のため紙幣2は強制的に傾倒する。

【0040】17は膨出状の空間部である。この空間部17は、落下した紙幣2が前記反転機構18によって縦長状態から強制的に横長状に反転した際、前記紙幣2が横長になっても十分余裕のあるスペースである。

【0041】前記空間部17は、ベルト1の前進方向と同じ部位の落下管16の下方部に形成する。

【0042】さらに空間部17の膨出形状は、図面の如く半円形上に限定せずに、紙幣2が反転し、落下するのに支障のない形状をもって形成する。

【0043】

【発明の効果】請求項1記載の発明は、パチスロ遊技設備等において使用される紙幣及びメダルを搬送する搬送用コンベアの終端部に、前方を若干傾斜状にして設置すると共に、前記コンベアによって搬送されてきた紙幣は

紙幣収納箱に、メダルはメダル収納箱に確実に振り分け収納せしめる紙幣の振り分け機構を設けた紙幣及びメダルの共用搬送装置なので、搬送用コンベアによって搬送されてきた紙幣は、確実に紙幣収納箱に落下収納せしめ、他方重合しながら搬送されてきた硬貨を、最初の段階で滑り落とし、つぎの段階では滑らせながら確実に落下せしめるようにした。

【0044】請求項2記載の発明は、前記紙幣及びメダルの振り分け機構の後方部の下方部に、メダル収納箱を設け、前記搬送用コンベアの前方端部より落下したメダルを傾斜中の該機構より滑り落とし収納すると共に、前方部に上昇状態で搬送された紙幣のみを若干前進せしめた後、紙幣を落下せしめる誘導機構を有する振り分け機構を設け、前記誘導機構と前記前方ブーリーとの間に間隙部を設けてベルトによって上方部に搬送されてきた一部のメダルを落下し、落下後は滑り落ちるような機構にした紙幣及びメダルの共用搬送装置なので、搬送された紙幣は前方の誘導機構を介して確実に収納箱に収納できると共に、搬送されたメダルも重合したり、しなかったりしても、2段階で確実に所定個所の収納箱に収納できる利点を有している。

【0045】請求項3記載の発明は、パチンコ遊技設備等において使用される紙幣及び硬貨を搬送する搬送用コンベアの終端部に、前方を若干傾斜状にして設置すると共に、前記コンベアによって搬送されてきた紙幣は紙幣収納箱に、硬貨は硬貨収納箱に確実に振り分け収納せしめる紙幣及び硬貨の振り分け機構を設けた紙幣及び硬貨の共用搬送装置なので、請求項1記載の発明と同様の効果を有している。

【0046】請求項4記載の発明は、前記紙幣、硬貨の共用搬送装置の後方部の下方部に、硬貨収納箱を設け、前記搬送用コンベアの前方端部より落下した硬貨を傾斜中の該機構より滑り落とし収納すると共に、前記搬送装置の前方部に上昇状態で搬送された紙幣のみを若干前進せしめた後、紙幣を落下せしめる誘導機構を有する振り分け機構を設け、前記振り分け機構と前記前方ブーリーとの間に間隙部を設けてベルトによって上方部に搬送された一部の硬貨を落下し、落下後は滑り落ちるような機構にした紙幣及び硬貨の共用搬送装置なので、請求項3記載の発明と同様の効果を有している。

【0047】請求項5記載の発明は、パチスロ機又はパチンコ機のメダル貸機又はパチンコ玉貸機に投入された硬貨と紙幣、あるいはメダルと紙幣を混在して搬送する搬送用コンベアと接続する前記水平状の搬送用コンベアに対し、玉貸機又はメダル貸機を構成する縦長方向に設置の紙幣降下機構の下方部に、縦状に落下してきた紙幣が自重で回転し横長状に向きを変更せしめる空間部を設けた遊技設備用紙幣降下機構なので、紙幣降下機構を介し縦形状で落下する各種紙幣を確実に反転せしめ、しかも前記紙幣が何ら支障なく反転できるようにした利点を

有している。

【0048】請求項6記載の発明は、前記紙幣降下機構の下方部の空間部が、搬送用コンベアのベルトの前進方向と同じ部位に形成する遊技設備用紙幣降下機構なので、請求項5記載の発明と同じ効果を有している。

【0049】請求項7記載の発明は、前記空間部と反対の部位に、落下紙幣の下方端縁部中、隅部寄りの端縁部が当るように紙幣反転機構を設けた遊技設備用紙幣降下機構なので、請求項5記載の発明と同じ効果を有している。

【0050】請求項8記載の発明は、前記空間部は、半円形状にて形成する遊技設備用紙幣降下機構なので、請求項5記載の発明と同じ効果を有している。

【0051】請求項9記載の発明は、前記振り分け機構が、紙幣、硬貨又はメダルを搬送する駆動機構によって駆動するベルトと、前記ベルトの前方部と後方部に硬貨又はメダルが落下する空隙部と、前記ベルトの下方部に、メダル又は硬貨を滑り落とす滑り台部を設けた硬貨、紙幣等の共用搬送装置なので、メダル又は硬貨は滑り台部を介して確実に落下収納できる。

【図面の簡単な説明】

【図1】本発明の硬貨、紙幣等の共用搬送装置の一部切欠縦断正面図である。

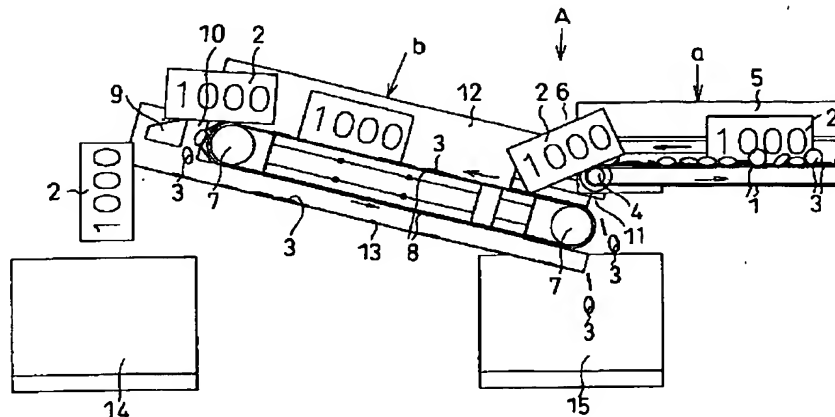
【図2】本発明の硬貨、紙幣等の共用搬送装置及び紙幣降下機構における紙幣降下機構と搬送用コンベアの一部\*

\* 切欠縦断正面図である。

【符号の説明】

A	共用搬送装置
B	紙幣降下機構
a	搬送用コンベア
b	振り分け機構
1	ベルト
2	紙幣
3	硬貨
4	ブーリ
5	化粧板部
6	前方部
7	前方ブーリ部
8	ベルト
9	振り分け機構
10	間隙部
11	後方間隙部
12	化粧板部
13	滑り台部
14	紙幣収納部
15	硬貨収納部
16	紙幣降下管
17	空間部
18	紙幣反転機構

【図1】



【図2】

